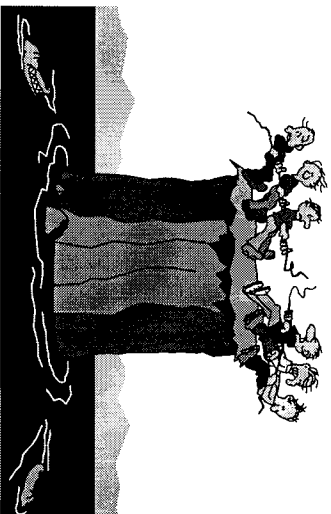


'STEVAN' PLAINS BRISTLEGRASS

for

Erosion Control Plantings on Rangelands,
Retired Farmlands, and Critically Disturbed
Areas



'Stevan' plains bristlegrass [*Setaria leucopila* (Scribn. & Merrill) K. Schum.] is a C₄, native, perennial, warm-season bunchgrass. It is recommended for use in revegetation projects on rangelands and retired farmlands, as well as for erosion control along roadway construction sites and critically disturbed areas. It is best adapted to sandy and sandy loam soils in southeastern Arizona, southwestern and southeastern New Mexico, northeastern Mexico, and western Texas. Stevan should also perform well on clay and clay loam uplands as well as on limestone hills and limy uplands.

Stevan (9003939, P.I. 552568) was released on June 16, 1994 by the U.S.D.A. Natural Resources Conservation Service (NRCS) in cooperation with the U.S.D.A. Agricultural Research Service and the University of Arizona Agricultural Experiment Station. It is a bulk population comprised of 13 collections which were selected out of the 1975 Critical Area and Range Improvement Grass Initial Evaluation Planting conducted at the Tucson Plant Materials Center.

Description

Stevan plains bristlegrass is a C₄, native, perennial, warm-season bunchgrass. At the Tucson Plant Materials Center, Stevan grows to a height of 35-40 inches. The panicle is densely flowered with solitary bristles below each spikelet. These bristles give this plant a unique appearance and hence its common name: plains bristlegrass.

Adaptation

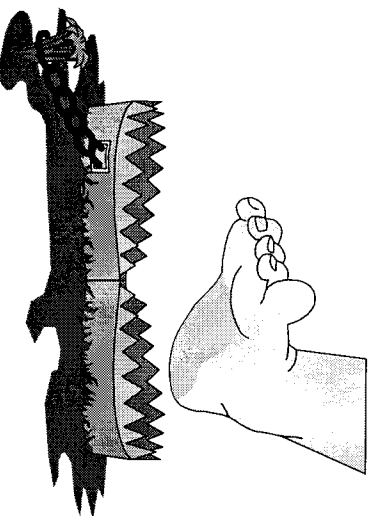
Stevan plains bristlegrass is a bulk population comprised of 13 accessions (collections). Ten of the accessions were collected in southeastern Arizona, two accessions were received from Odessa, Texas, and one accession was collected in New Mexico.

It is best adapted to:

* Elevations ranging from 2,000-5,500 feet

* 10-16 inches of annual precipitation
* sandy to sandy loam soils

Other plants found growing in association with Stevan include: bush mulhly, sidecoats grama, Arizona cottontop, false mesquite, fourwing saltbush, winterfat, and ocotillo.



Establishment

For best results, Stevan plains bristlegrass seed can be drill-seeded at a depth of 1-1.5 inches into a well prepared seedbed. Good seed-soil contact is required for optimum germination and establishment. The recommended seeding rate is 3-4 pure live seed (PLS) pounds per acre. In Arizona, plantings should be conducted after the onset of summer rains. Spring plantings can be conducted only if spring rains appear to be above average in frequency or irrigation water is available, if otherwise, spring plantings are not recommended. Plantings should be managed to

prevent young seedlings from being grazed to insure establishment (normally 1-2 years of rest).

It is recommended that Stevan be utilized as part of a seeding mixture comprising roughly 20-30% of the total mix. However, the percent composition can vary depending on the seeding objective.

When seeding on sites subject to erosion, mulching is recommended to conserve moisture, prevent surface compaction or crusting, reduce surface runoff and erosion, control weeds, and help establish plant cover.

Seed Production

Under cultivated conditions at the Tucson Plant Materials Center, Stevan plains bristleggrass can be harvested twice per year. The first harvest occurring in early- to mid-summer and again in late summer to early fall. Stevan is most efficiently harvested using a Woodward Flail-Vac Seed Harvester. The optimum brush speed for harvesting Stevan appears to be 300-400 rpm. Harvesting plains bristleggrass using a combine is also an efficient method. The best harvesting time appears to be when the majority of seedheads turn almost "straw-colored" (green tint still evident). If the seed is allowed to turn completely "straw-colored" before harvest, the majority of the seed will have already shattered. The harvested material

is allowed to air-dry for approximately 5-7 days before cleaning.

The seed cleaning process at the TPMC is as follows: The material is first processed through a Westrup Brush Machine using a #12 screen (mantle) at a brush speed of 7-8. The resulting material is then processed through an Office Clipper (Dual Air Screen Separator). The process using the Office Clipper is done twice. Both steps are done using a #7 top screen and a 34x34 bottom screen. It should be noted that variation in harvests will result in slightly different screen size requirements for the cleaning processes. These changes in screen sizes are generally minimal, depending on the condition of the harvested material and the degree of clean seed that is desired. Stevan plains bristleggrass has approximately 305,000 seeds per pound.

Availability

Foundation seed of Stevan for certified seed increase is available from the USDA-NRCS Tucson Plant Materials Center, 3241 N. Romero Rd., Tucson, AZ 85705. Seed propagation of Stevan is restricted to two generations of increase from foundation and certified seed. Foundation seed will be maintained by the USDA-NRCS Tucson Plant Materials Center.

For more information on availability and use of Stevan plains bristleggrass, contact your local

NRCS office. The United States Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-5831 (voice) or (202) 720-7808 (TDD).

